Version
2.1.2.0

Abstract

Grant Number:	1 X01MH78932-01
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Project Title:	HTS for Identification of Glucocerebrosidase Activators and Inhibitors as Pharmac

Abstract: *DESCRIPTION (provided by applicant):* The goal of this project is to screen the compound library to identify small molecule chaperones using a developed beta-glucocerebrosidase assay. Gaucher disease is a genetic disorder resulting from the deficiency of the lysosomal enzyme beta-glucocerebrosidase. Preliminary studies suggest that some mutations in the glucocerebrosidase gene result in the improper protein folding and trafficking of the enzyme. It has been proposed that small molecule inhibitors can function as chemical chaperones which might correct the targeting or folding of the mutant enzyme and thus restore its function. We developed a fluorogenic enzyme assay with emission readout at 600 nm for high throughput screening in 1536-well plate format to identify both inhibitors and activators of glucocerebrosidase which are potential pharmacological chaperones for the mutated enzyme.

Thesaurus Terms: small molecule chaperones, beta-glucocerebrosidase assay, Gaucher disease, lysosomal enzyme, glucocerebrosidase, protein folding, small molecule inhibitors, chemical chaperones, fluorogenic enzyme assay, high-throughput screening, HTS, 1536-well plate format

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Fiscal Year: 2007
Project Start: 2006/07/25
Project End: 2007/07/25
ICD: NATIONAL INSTITUTE OF MENTAL HEALTH

IRG: ZMH1